

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: INVUE

Report Number: P367813

Luminaire Tested: **MSA-SA3B-730-U-SL2-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367813  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-17)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA3B-730-U-SL2-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10972 lumens  
Efficiency: N/A  
Efficacy: 87.1 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B1 - U0 - G2

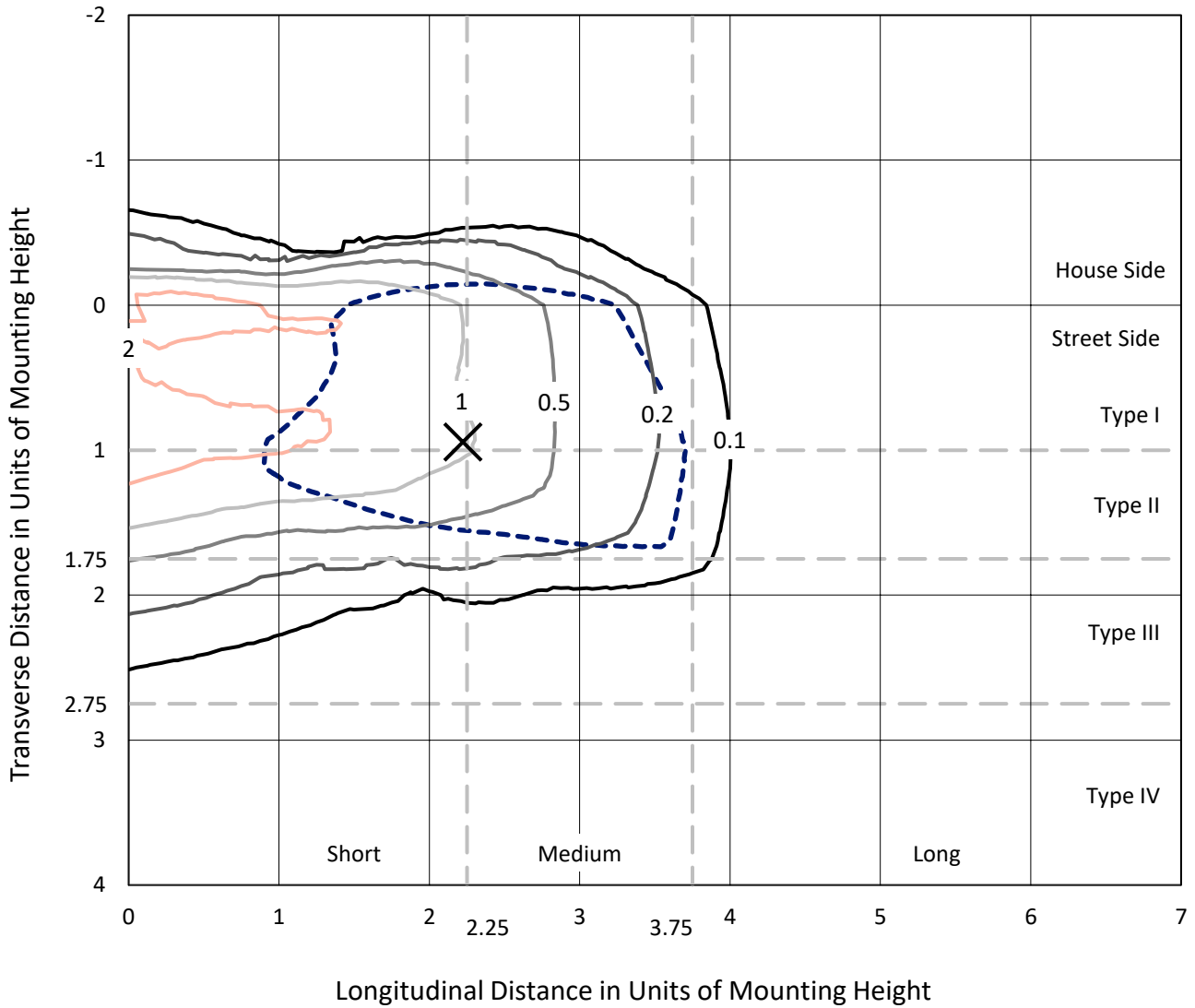
Input Watts (W): 126  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

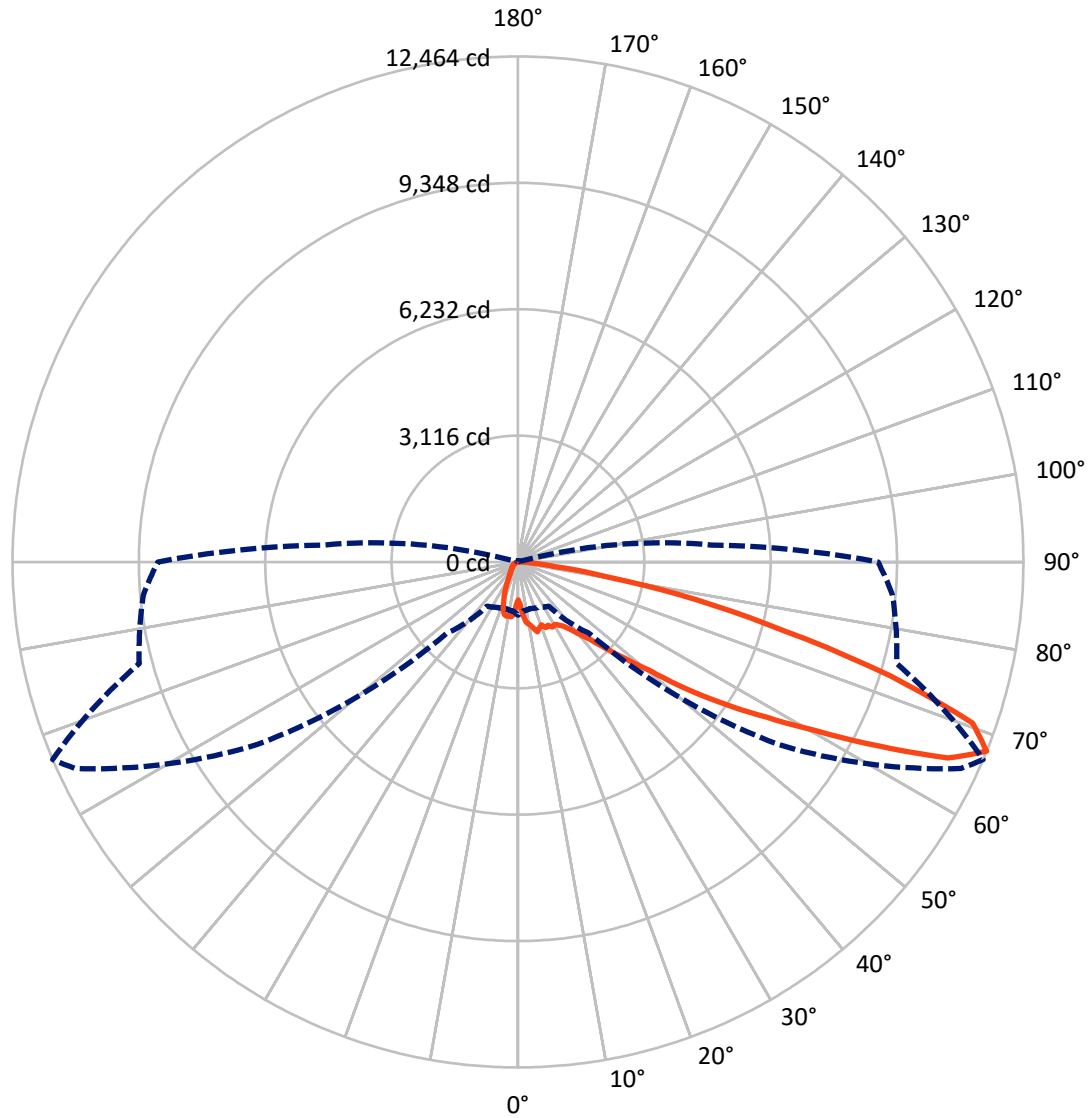
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.9 fc  
 Type II - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 67-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 1356.9   | 0.0    | 1356.9  |
|                    | % Fixture | 12.4     | 0.0    | 12.4    |
| <b>Street Side</b> | Lumens    | 9615.1   | 0.0    | 9615.1  |
|                    | % Fixture | 87.6     | 0.0    | 87.6    |
| <b>Total</b>       | Lumens    | 10972.0  | 0.0    | 10972.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 117.3   | 1.1       |
| 10°-20°   | 347.1   | 3.2       |
| 20°-30°   | 543.9   | 5.0       |
| 30°-40°   | 877.1   | 8.0       |
| 40°-50°   | 1611.6  | 14.7      |
| 50°-60°   | 2721.8  | 24.8      |
| 60°-70°   | 3009.1  | 27.4      |
| 70°-80°   | 1574.9  | 14.4      |
| 80°-90°   | 169.1   | 1.5       |
| 90°-100°  | 0.0     | 0.0       |
| 100°-110° | 0.0     | 0.0       |
| 110°-120° | 0.0     | 0.0       |
| 120°-130° | 0.0     | 0.0       |
| 130°-140° | 0.0     | 0.0       |
| 140°-150° | 0.0     | 0.0       |
| 150°-160° | 0.0     | 0.0       |
| 160°-170° | 0.0     | 0.0       |
| 170°-180° | 0.0     | 0.0       |
| 0°-90°    | 10972.0 | 100.0     |
| 0°-180°   | 10972.0 | 100.0     |

**Coefficient of Utilization**



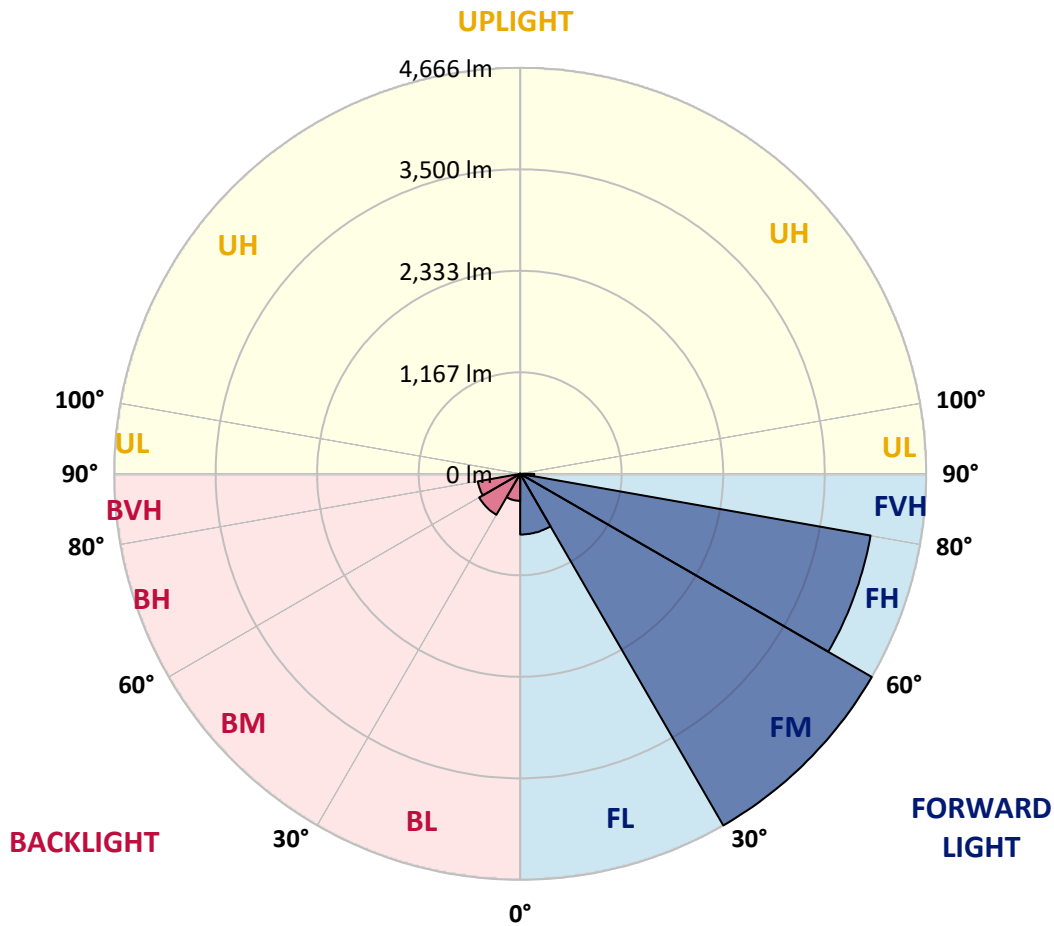
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 697.6  | 6.4       |                         |      |         |
| FM (30°-60°)   | 4666.4 | 42.5      |                         |      |         |
| FH (60°-80°)   | 4089.1 | 37.3      |                         |      | G2/5000 |
| FVH (80°-90°)  | 161.9  | 1.5       |                         |      | G2/225  |
| BL (0°-30°)    | 310.7  | 2.8       | B1/500                  |      |         |
| BM (30°-60°)   | 544.1  | 5.0       | B1/1000                 |      |         |
| BH (60°-80°)   | 494.9  | 4.5       | B1/500                  |      | G1/500  |
| BVH (80°-90°)  | 7.2    | 0.1       |                         |      | G0/10   |
| UL (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B1-U0-G2**

Type II Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°     | 67°     | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|---------|---------|--------|--------|
| 0°    | 934.5  | 934.5  | 934.5  | 934.5  | 934.5  | 934.5  | 934.5  | 934.5   | 934.5   | 934.5  | 934.5  |
| 2.5°  | 1103.2 | 1065.9 | 1002.4 | 1020.8 | 1057.5 | 1088.1 | 1073.7 | 1045.3  | 1045.8  | 1016.9 | 1121.0 |
| 5°    | 1283.5 | 1233.4 | 1196.7 | 1209.5 | 1207.8 | 1206.7 | 1275.1 | 1301.3  | 1312.4  | 1360.3 | 1431.0 |
| 7.5°  | 1335.2 | 1317.4 | 1279.0 | 1290.7 | 1252.3 | 1255.1 | 1375.3 | 1488.9  | 1506.7  | 1536.2 | 1662.0 |
| 10°   | 1315.2 | 1280.7 | 1294.6 | 1294.6 | 1295.2 | 1357.5 | 1438.2 | 1546.8  | 1568.5  | 1682.0 | 1695.4 |
| 12.5° | 1293.5 | 1295.2 | 1350.3 | 1340.3 | 1416.0 | 1527.8 | 1555.1 | 1677.0  | 1666.4  | 1764.9 | 1911.3 |
| 15°   | 1374.2 | 1416.5 | 1380.9 | 1394.8 | 1402.0 | 1533.4 | 1577.4 | 1739.3  | 1786.1  | 1910.8 | 2005.9 |
| 17.5° | 1512.8 | 1518.4 | 1444.3 | 1424.3 | 1476.6 | 1513.9 | 1602.4 | 1680.3  | 1711.5  | 2038.8 | 2173.5 |
| 20°   | 1537.8 | 1573.5 | 1498.3 | 1382.6 | 1493.3 | 1544.5 | 1606.3 | 1643.6  | 1657.0  | 2078.3 | 2268.1 |
| 22.5° | 1688.7 | 1649.2 | 1528.9 | 1441.0 | 1472.7 | 1528.4 | 1566.8 | 1679.2  | 1759.4  | 2003.7 | 2358.8 |
| 25°   | 1766.0 | 1755.5 | 1640.8 | 1565.7 | 1533.4 | 1528.9 | 1616.9 | 1702.0  | 1727.6  | 2081.1 | 2381.1 |
| 27.5° | 1951.4 | 1927.5 | 1705.4 | 1695.9 | 1589.6 | 1496.1 | 1618.5 | 1771.6  | 1819.5  | 2008.2 | 2464.6 |
| 30°   | 2203.5 | 2194.6 | 1899.1 | 1892.9 | 1723.7 | 1555.7 | 1708.7 | 1814.5  | 1785.5  | 2045.5 | 2520.2 |
| 32.5° | 2457.3 | 2529.7 | 2227.5 | 2054.9 | 1928.0 | 1774.4 | 1683.1 | 1801.1  | 1852.9  | 2136.2 | 2622.6 |
| 35°   | 2764.0 | 2816.3 | 2508.5 | 2383.3 | 2101.1 | 1876.8 | 1852.9 | 1928.6  | 1950.8  | 2244.2 | 2739.0 |
| 37.5° | 3300.6 | 3221.5 | 2959.4 | 2746.2 | 2598.1 | 2242.5 | 2124.5 | 2064.4  | 2116.1  | 2390.5 | 2976.6 |
| 40°   | 3696.8 | 3646.7 | 3323.9 | 3196.5 | 2855.8 | 2647.7 | 2339.3 | 2283.1  | 2341.0  | 2540.8 | 3141.9 |
| 42.5° | 4174.9 | 4070.9 | 3767.0 | 3680.7 | 3330.0 | 2928.8 | 2616.0 | 2635.4  | 2599.3  | 2837.5 | 3431.9 |
| 45°   | 4607.4 | 4372.5 | 4203.3 | 4222.8 | 4035.8 | 3493.7 | 3077.4 | 3067.9  | 3037.8  | 3267.2 | 3736.9 |
| 47.5° | 4898.5 | 4693.1 | 4528.4 | 4474.4 | 4452.1 | 4487.2 | 3744.1 | 3576.1  | 3553.8  | 3718.5 | 4217.2 |
| 50°   | 5054.9 | 4830.0 | 4626.3 | 4637.5 | 5089.4 | 5429.5 | 4432.1 | 4193.3  | 4201.7  | 4373.6 | 4874.0 |
| 52.5° | 4949.7 | 4695.4 | 4480.5 | 4689.2 | 5583.7 | 6057.9 | 5570.9 | 4999.8  | 5193.5  | 5149.5 | 5755.1 |
| 55°   | 4463.8 | 4242.8 | 4090.3 | 4463.8 | 5637.7 | 6734.1 | 6972.9 | 6213.7  | 6170.3  | 6070.1 | 6653.4 |
| 57.5° | 3646.2 | 3455.8 | 3361.8 | 3755.8 | 5047.1 | 7279.0 | 8381.1 | 7585.7  | 7215.6  | 6795.9 | 7399.2 |
| 60°   | 2716.7 | 2576.4 | 2478.5 | 2686.6 | 3976.8 | 6749.7 | 9303.3 | 8878.6  | 8450.1  | 7495.5 | 8069.4 |
| 62.5° | 2012.1 | 1898.0 | 1793.9 | 1812.8 | 2738.4 | 5805.2 | 9657.3 | 10248.4 | 10002.4 | 8234.1 | 8701.7 |
| 65°   | 1605.7 | 1501.7 | 1428.8 | 1387.0 | 1695.9 | 4367.5 | 9164.7 | 11371.0 | 11654.9 | 8929.9 | 9158.1 |
| 67.5° | 1311.3 | 1223.4 | 1187.2 | 1235.1 | 1330.2 | 2489.6 | 7849.0 | 12052.3 | 12464.2 | 9667.9 | 9270.5 |
| 70°   | 1067.0 | 994.6  | 990.7  | 1119.8 | 1225.0 | 1517.8 | 5773.5 | 11582.0 | 11892.0 | 9793.7 | 8596.5 |
| 72.5° | 743.6  | 711.9  | 762.5  | 945.6  | 1213.9 | 1264.0 | 3315.6 | 9584.4  | 9595.5  | 8649.9 | 7070.9 |
| 75°   | 420.8  | 415.8  | 495.9  | 754.2  | 1182.2 | 1251.2 | 1848.4 | 6773.1  | 6778.1  | 6542.1 | 4898.5 |
| 77.5° | 231.5  | 216.5  | 288.9  | 509.8  | 1015.2 | 1222.3 | 1192.2 | 4624.7  | 4506.1  | 3640.6 | 2237.5 |
| 80°   | 106.9  | 100.7  | 156.4  | 326.7  | 742.5  | 1156.0 | 955.7  | 2541.9  | 2292.0  | 1186.1 | 546.0  |
| 82.5° | 44.0   | 41.7   | 71.8   | 209.8  | 469.2  | 931.2  | 805.4  | 1127.6  | 905.0   | 225.4  | 168.6  |
| 85°   | 7.8    | 8.3    | 29.5   | 126.9  | 262.7  | 429.1  | 652.9  | 535.4   | 393.5   | 62.3   | 92.4   |
| 87.5° | 0.0    | 0.0    | 6.1    | 30.6   | 63.5   | 117.4  | 264.9  | 149.7   | 103.0   | 18.4   | 27.3   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0     | 0.0     | 0.0    | 0.0    |



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**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°    | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 934.5  | 934.5  | 934.5  | 934.5  | 934.5  | 934.5  | 934.5  | 934.5  | 934.5  | 934.5  | 934.5  |
| 2.5°  | 1141.6 | 1132.1 | 1036.4 | 1040.8 | 1047.5 | 1041.4 | 1040.3 | 1013.5 | 989.1  | 1069.8 | 1068.6 |
| 5°    | 1443.8 | 1376.4 | 1310.2 | 1284.6 | 1229.5 | 1157.1 | 1157.7 | 1134.9 | 1111.5 | 1144.3 | 1144.3 |
| 7.5°  | 1659.2 | 1566.2 | 1482.2 | 1332.5 | 1186.6 | 1054.7 | 1043.0 | 1011.9 | 976.3  | 1019.1 | 1027.5 |
| 10°   | 1709.3 | 1628.6 | 1520.0 | 1300.2 | 1162.1 | 1033.6 | 892.2  | 775.9  | 721.9  | 696.8  | 692.4  |
| 12.5° | 1863.4 | 1803.3 | 1560.7 | 1317.4 | 1118.7 | 901.1  | 669.6  | 531.5  | 437.5  | 430.2  | 420.2  |
| 15°   | 1966.4 | 1924.1 | 1600.7 | 1274.6 | 935.1  | 647.9  | 420.8  | 322.8  | 285.0  | 281.6  | 276.6  |
| 17.5° | 2126.2 | 2052.7 | 1562.3 | 1138.2 | 731.4  | 427.5  | 282.7  | 254.9  | 259.4  | 269.4  | 261.6  |
| 20°   | 2191.3 | 2047.7 | 1478.8 | 940.6  | 513.7  | 286.6  | 245.5  | 230.4  | 242.1  | 251.6  | 247.1  |
| 22.5° | 2258.1 | 2062.1 | 1404.8 | 775.3  | 335.6  | 237.1  | 218.7  | 210.9  | 212.1  | 221.5  | 222.1  |
| 25°   | 2257.5 | 2102.2 | 1319.1 | 603.9  | 249.9  | 210.9  | 197.6  | 187.6  | 183.7  | 190.4  | 188.7  |
| 27.5° | 2367.2 | 2056.0 | 1162.7 | 448.1  | 219.9  | 188.7  | 175.9  | 163.6  | 149.7  | 156.4  | 156.4  |
| 30°   | 2367.7 | 2131.2 | 1053.6 | 321.7  | 201.5  | 168.1  | 157.0  | 138.0  | 121.9  | 127.5  | 128.0  |
| 32.5° | 2430.6 | 2066.0 | 952.9  | 246.0  | 187.0  | 155.8  | 131.4  | 114.1  | 104.6  | 108.0  | 108.0  |
| 35°   | 2502.4 | 2121.7 | 798.1  | 217.1  | 172.5  | 138.6  | 112.4  | 98.5   | 91.3   | 94.1   | 94.1   |
| 37.5° | 2739.5 | 2110.0 | 690.7  | 202.0  | 163.1  | 125.2  | 102.4  | 86.8   | 83.5   | 85.2   | 87.4   |
| 40°   | 2825.2 | 2192.9 | 544.9  | 193.1  | 147.5  | 113.0  | 90.2   | 78.5   | 74.0   | 75.1   | 75.7   |
| 42.5° | 3043.4 | 2211.3 | 435.2  | 185.9  | 133.6  | 98.0   | 80.1   | 71.8   | 66.2   | 66.2   | 67.9   |
| 45°   | 3284.4 | 2257.5 | 346.2  | 179.8  | 121.9  | 87.9   | 72.4   | 65.7   | 57.3   | 56.2   | 58.4   |
| 47.5° | 3633.4 | 2434.5 | 282.2  | 167.5  | 108.0  | 81.8   | 66.8   | 56.8   | 50.1   | 47.9   | 50.1   |
| 50°   | 4217.2 | 2735.1 | 249.4  | 152.5  | 98.0   | 76.8   | 59.0   | 48.4   | 43.4   | 40.6   | 42.3   |
| 52.5° | 5041.0 | 3254.4 | 232.1  | 138.6  | 89.1   | 69.0   | 52.9   | 42.3   | 37.3   | 35.1   | 36.2   |
| 55°   | 5956.0 | 3849.9 | 223.7  | 124.7  | 81.3   | 60.7   | 46.2   | 37.3   | 32.8   | 30.1   | 30.6   |
| 57.5° | 6802.0 | 4409.8 | 215.4  | 111.3  | 73.5   | 54.0   | 40.6   | 32.8   | 28.4   | 25.6   | 26.2   |
| 60°   | 7635.8 | 4856.8 | 195.4  | 95.7   | 66.2   | 48.4   | 35.6   | 28.4   | 25.6   | 22.3   | 22.3   |
| 62.5° | 8373.3 | 5123.9 | 166.4  | 82.9   | 59.6   | 42.9   | 31.7   | 25.6   | 23.4   | 20.0   | 20.0   |
| 65°   | 8875.3 | 5136.2 | 134.1  | 71.2   | 52.3   | 36.7   | 27.8   | 23.9   | 21.7   | 17.8   | 17.3   |
| 67.5° | 8882.5 | 4802.2 | 107.4  | 63.5   | 46.2   | 32.3   | 25.0   | 22.8   | 20.0   | 16.7   | 15.6   |
| 70°   | 7950.3 | 3967.3 | 89.6   | 55.7   | 40.1   | 28.4   | 21.7   | 21.7   | 19.5   | 16.1   | 14.5   |
| 72.5° | 6359.5 | 3031.7 | 75.1   | 48.4   | 35.6   | 24.5   | 20.0   | 20.6   | 18.9   | 16.1   | 14.5   |
| 75°   | 4274.6 | 1738.8 | 62.3   | 41.2   | 31.2   | 20.6   | 19.5   | 20.0   | 19.5   | 16.1   | 13.9   |
| 77.5° | 1968.6 | 553.8  | 48.4   | 34.0   | 26.7   | 17.3   | 18.9   | 18.9   | 17.8   | 14.5   | 12.2   |
| 80°   | 443.6  | 136.4  | 35.1   | 25.0   | 21.7   | 12.8   | 17.3   | 15.6   | 13.9   | 10.0   | 7.2    |
| 82.5° | 161.4  | 41.7   | 21.2   | 15.6   | 13.4   | 5.0    | 11.1   | 11.1   | 10.0   | 7.2    | 4.5    |
| 85°   | 92.4   | 21.7   | 11.7   | 10.0   | 7.2    | 2.2    | 6.1    | 6.7    | 5.6    | 5.0    | 2.2    |
| 87.5° | 30.1   | 5.0    | 5.6    | 6.1    | 5.6    | 1.1    | 2.2    | 2.2    | 1.7    | 1.1    | 0.0    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)